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Mauna Loa Solar Observatory Observer's Log  
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Thu Nov 21 16:58:09 GMT 1996

Year: 96 Doy: 326

Observer: yasukawa

WEATHER COMMENT: Thu Nov 21 16:58:14 GMT 1996

Cool, in heavy cirrus overcast, light southeast wind.

MKIII COMMENT: Thu Nov 21 16:58:50 GMT 1996

Timing problem apparently intermittent as MKIII is functional as of turn-on. 1/rot, 64/rot, DATA and START pulses appear at test points on microproc. digital isolator. P+S monitor is sync'd.

Voltages on analog corrector 5volt supplies are OK.

Thu Nov 21 17:01:08 GMT 1996 CHIP Startup--Initializing new tape

MKIII COMMENT: Thu Nov 21 17:22:36 GMT 1996

All encoder and START/DATA pulses appear upstairs at Spar isolator t.p., preamp t.p., and in modulator box t.p. on driver card. Power supply for card and HEIs OK at 12.0 V. Voltage on 75113 pins 8 and 16 5.2V as I recall it was quite low yesterday.

COMMENT: Thu Nov 21 17:57:51 GMT 1996

Going down to GONG to do weekly PM while in clouds and while

MKIII "cooks".

COMMENT: Thu Nov 21 18:37:36 GMT 1996

Back from GONG, MKIII still happy-dappy-doo. No sun, though.

MKIII COMMENT: Thu Nov 21 19:28:02 GMT 1996

"sync spikes" at start of loaf-of bread gone on P+S. 1/rot, 64/rot gone. Checking things out.

MKIII COMMENT: Thu Nov 21 19:38:07 GMT 1996

same "dead symptoms" as yesterday. I confirmed that the Vcc voltage to 75113 on retransmitter card is 0.014 V while dead and was 5.2V while alive so I will attack problem from there.

MKIII COMMENT: Thu Nov 21 20:48:58 GMT 1996

Vcc at retransmitter card is 5.2V with HEI disconnected at Microtech connector, and 0.014V when Microtech is plugged in. HEI is a new unit so problem might be in cable or at terminal board between the HEI and cable.

MKIII COMMENT: Thu Nov 21 21:49:28 GMT 1996

Found a high resistance short in new HEI (9M-ohm where a brand new unit is open). Further investigation revealed a short between white wire (+5V to detector side of HEI) and Microtech connector shell. That condition probably grounded out the 5V Vcc I was seeing. It probably also damaged the new HEI that I installed yesterday.

Fortunately, I not only found a spare cable all made up. it was connected to a new terminal block, the old one is really "bus' up" as they say over here. I will return the old unit to Boulder and maybe they can

reproduce another spare to keep around for the next 17 years.

I also found more copies of the retransmitter and digital isolator cards nearby while looking and as a bonus I found a spare GE1970 halogen lamp that replaces the hard to find lamp that Kim and I blew up during CHIP install.

Recreating the half-wave plate encoder.

MKIII COMMENT: Thu Nov 21 22:18:39 GMT 1996

Spare mount is a mirror image, therefore unuseable. I will try swapping the terminal inserts so new ones can be used. I will also send a sample back so spares can be acquired.

MKIII COMMENT: Thu Nov 21 23:17:10 GMT 1996

Reassembled the half-wave plate encoder and checked it out for shorts, etc. Reinstalled it onto MKIII, installed retransmitter cards and crossed my fingers. Turned on analog power.  
EVERYBODY IS HOME! ALL SIGNALS BACK AND LOOKING GOOD!

No sun to check system completely, but I am pretty confident that I found the trouble and it is fixed.

I will let things run a while as I do the housekeeping tasks.

MKIII COMMENT: Thu Nov 21 23:31:36 GMT 1996

There is still an intermittent situation on the P+S monitor where the pixel pulses occasionally oscillate, may be a scope sync problem as the start, data, 1/rot, and 64/rot look quite steady.

Thu Nov 21 23:47:30 GMT 1996 CHIP ending tape

MKIII COMMENT: Fri Nov 22 00:00:47 GMT 1996

Shaky waveform was due to sync'ing on - slope. Set scope to + slope sync and waveform steadied up.

Other signals still look good. Shutting down.

COMMENT: Fri Nov 22 00:02:32 GMT 1996

Activity report:

No MKIII, DPMON or CHIP data. Heavy overcast all day.

LOWL maybe.....

Tape: LOWL: L00427